tinct advance in the teaching of General Chemistry. Dr. Smith appears to recognize more clearly than most teachers have done that chemical experiments for beginners should not be selected merely or chiefly to give a knowledge of the striking superficial properties of a few substances, but that they should be so devised that the student may acquire a direct experimental knowledge of those facts on which the real science of chemistry rests. For this reason the book contains an unusual number of carefully selected quantitative experiments. The book is notable also because of its introduction of experiments to illustrate ionization and the phenomena on which the modern theory of solutions is based. The directions are of such a nature, too, as are suited to develop independent thought and self-reliance. The student who thoroughly masters the course laid down will have made a good beginning toward an understanding of chemistry and of how chemists work. W. A. NOYES.

GENERAL.

La Théorie de Maxwell et les Oscillations Hertziennes, by H. Poincaré (Paris, George, Carré et C. Naud, 1899), is a popular exposition of the mathematical treatise on the subject by the same author, which was reviewed in SCIENCE for January, 1895. It is one of the series of popular treatises on scientific subjects published under the general name 'Scientia.' It is very attractive both in form and in substance and will furnish much interesting reading to those who have neither time nor inclination to study the mathematical treatise. M. I. P.

THE excellent 'Manual of Bacteriology' of Muir and Ritchie (The Macmillan Company, 1899), already reviewed in these columns, has in the second edition been revised, brought up to date and somewhat enlarged. It is, as was the first edition, a bacteriology for medical folk. About one-quarter of its pages are concerned with general technique; the remainder with excellent, short and clear, but fairly comprehensive descriptions of pathogenic microorganisms. The exposition of that difficult and dangerous theme, immunity, is admirable. The bibliographic suggestions are good, the historical glimpses illuminating. Altogether, the book is of such evenly sustained excellence throughout, that among a small host of competitors of similar scope in various languages, it easily holds the leading place. T. M. P.

THE authorities of the Royal College of Surgeons in England have made arrangements for the compilation of a descriptive catalogue of the vertebrate brains in the Museum. Dr. G. Elliott Smith, of St. John's College, Cambridge, will undertake the work.

BOOKS RECEIVED.

The Elements of Alternating Currents. W. S. FRANKLIN and R. B. WILLIAMSON. New York and London, The Macmillan Company. 1899. Pp. 212.

Pulmonary Tuberculosis; Its Modern Prophylaxis and the Treatment in Special Institutions and at Home. S. A. KNOPF. Philadelphia, P. Blakiston's Son & Co. 1899. Pp. 343.

The Story of the Fishes. JAMES NEWTON BASKETT. New York, D. Appleton & Co. 1899. Pp. xxii + 297.

About the Weather. MARK W. HARRINGTON. New York, D. Appleton & Co. 1899. Pp. xx + 246.

Determination of Radicles in Carbon Compounds. H. MEYER. Authorized translation by J. BISHOP TINGLE. New York, John Wiley & Sons; London, Chapman and Hall, Ltd. 1899. Pp. iv + 133. $1.00.

SCIENTIFIC JOURNALS AND ARTICLES.

IN *The American Naturalist* for October the leading article is an interesting paper of 'Notes on European Museums,' by O. C. Farrington, giving many interesting details of methods of installation. An important paper by O. P. Hay is 'On some Changes in the Names, Generic and Specific, of certain Fossil Fishes,' noting a number of names which must be considered as synonyms and replaced by others which are suggested. The 'Utility of Phosphorescence in Deep-Sea Animals' is discussed by C. C. Nutting, and C. P. Sigerfoos describes 'A New Hydroid from Long Island Sound' under the name of *Stylactis hooperi*. The habits of 'A Balloon-Making Fly,' an *Empis*, is described by J. M. Aldrich and L. A. Turley, while the question 'Have we more than One Species of *Blissus* in North America' is answered in the negative by F. M. Webster. The fourth part of 'Synopsis of North-American Invertebrates'

is by J. S. Kingsley and is devoted to the 'Astacoid and Thalassinoid Crustacea.' The balance of the number is devoted to Reviews and News. The very useful list of appointments to various scientific positions here and abroad is unusually full.

SOCIETIES AND ACADEMIES.

BIOLOGICAL SOCIETY OF WASHINGTON 310TH MEETING, SATURDAY, OCTOBER 21ST.

F. A. Lucas made some remarks on the flightless Harris' Cormorant, stating that the keel of the sternum was lacking save the anterior point to which the furcula was attached, that the pelvic girdle was very robust, though not quite equal in this respect to the larger Pallas' cormorant. The nearest relative was *Phalacrocorax penicillatus*.

O. P. Hay presented 'A Census of North American Fossil Vertebrates,' giving the number of genera and species in each order. Special attention was called to the great number of selachians represented in the Sub-Carboniferous and their apparent scarcity in the succeeding formations.

V. K. Chesnut presented some 'Notes on a Preliminary Catalogue of Plants Poisonous to Stock,' saying that some plants were not in themselves poisonous but acted by clogging the intestines, perforating and inflaming the tissues of the eyes, nose or intestinal tract, or by the evolution of gases which distended the stomach and intestines to such an extent that the lungs and heart could not properly perform their work. Corn smut was deleterious from the expansion of the dry powdery spores, while some molds whose spores will germinate and grow in the body apparently produce a poisonous compound concomitantly with their growth. It was noted that some plants vary greatly in virulence at different seasons, and that others which were useful in small quantities were injurious when fed continuously.

H. J. Webber spoke on 'Polyembryony in Orange Hybrids,' calling attention to the curious results obtained in hybridizing the Trifoliate orange (*Citrus trifoliata*) with the Sweet orange (*Citrus aurantium*). In a number of instances two totally different seedlings were produced from the same hybrid seed. Of the numerous embryos produced in a single orange seed, one apparently develops normally from the fecundated egg cell and the other from certain cells of the nucellus near the upper part of the embryo sac, which become specialized, divide rapidly, and pushing out into the embryo sac form embryos. Usually several of these adventive embryos are developed in each seed. In hybridization the embryo developed from the egg cell is naturally the only one which shows any influence of the male parent. The adventive embryos which spring from the nucellar tissue of the mother parent could not be expected to show any effect of the cross. In crosses of the Sweet orange with pollen of the Trifoliate orange several seeds have developed more than one seedling, of which one has trifoliolate leaves similar to the pollen parent and the other, or others, unifoliolate leaves like the sweet orange mother parent. In such cases the speaker thought there can be no doubt that the trifoliolate seedling develops from the egg cell and is the only one affected by the hybridization, while the unifoliolate seedlings develop from adventive embryos and are not affected by the cross.

Albert F. Woods gave some 'Additional Notes on Spot Disease of Carnations,' stating that as the result of long experimentation he was able to positively confirm his former statements that the disease was not produced by bacteria, but was caused by the punctures of Aphids and Thrips. The curious device by which the slender bill of the aphis was enabled to be inserted between the plant cells was also described.

O. F. Cook,
Secretary.

SECTION OF ANTHROPOLOGY AND PSYCHOLOGY OF THE NEW YORK ACADEMY OF SCIENCES.

The regular meeting of the Section was held on October 23d. Dr. E. L. Thorndike reported some experiments on mental fatigue. The general plan of this investigation has already been described in Science of May 19th. The experiments reported confirm the earlier conclusion that there is no decrease in amount, speed or accuracy of work in the evenings of days of hard mental work over mornings or in